Oracle Integrated Lights Out Manager 3.0

Supplement for the Sun SPARC Enterprise T5440 Server

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Using This Documentation

This guide contains information about the Oracle Integrated Lights Out Manager (ILOM) service processor (SP) for Oracle's Sun SPARC Enterprise T5440 server. The SP enables you to remotely manage and administer your servers. You should be an experienced system administrator with a knowledge of UNIX commands.

This preface contains the following topics:

- "UNIX Commands" on page vii
- "Shell Prompts" on page viii
- "Related Documentation" on page viii
- "Documentation, Support, and Training" on page x
- "Documentation Feedback" on page x

UNIX Commands

This document might not contain information on basic UNIX commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one of the following for this information:

- Software documentation that you received with your system
- Oracle Solaris Operating System documentation, which is at

  `(http://docs.sun.com)`

Shell Prompts

Shell	Prompt
C shell	*machine-name*%
C shell superuser	*machine-name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#
ILOM service processor	->
ALOM compatibility shell	sc>
OpenBoot™ PROM firmware	ok

Related Documentation

The documents listed as online are available at:

(http://www.sun.com/products-n-solutions/hardware/docs/)

Application	Title	Part Number	Location
Late-breaking information	*SPARC Enterprise T5440 Server Product Notes*	820-3799	Online
Overview	*SPARC Enterprise T5440 Server Overview Guide*	820-4326	Online
Site preparation	*SPARC Enterprise T5440 Server Site Planning Guide*	820-3806	Online
Installation	*SPARC Enterprise T5440 Server Installation and Setup Guide*	820-3800	Online
Administration	*SPARC Enterprise T5440 Server Administration Guide*	820-3802	Online
Service	*SPARC Enterprise T5440 Server Service Manual*	820-3801	Online
Safety	*SPARC Enterprise T5440 Server Safety and Compliance manual*	820-3804	Online

For more information about how to work with your host server, the following documentation provides information about how to perform certain tasks related to ILOM.

Task	Title
Information that is common to all platforms managed by ILOM	*Oracle Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide* *Oracle Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide* *Oracle Integrated Lights Out Manager (ILOM) 3.0 Web Interface Procedures Guide* *Oarcle Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide* *Oracle Integrated Lights Out Manager (ILOM) SNMP and IPMI Procedures Guide*
Performing diagnostic tests	*SunVTS ™User's Guide* *SunVTS Quick Reference Guide* *SunVTS Test Reference Manual* *Sun Management Center Software User's Guide*
System and network administration	*Solaris System Administrator Guide* *SPARC: Installing Solaris Software*
Using the operating system	*Solaris User's Guide*

For more information about how to work with your host server, the following documentation provides information.

Task	Title
Performing diagnostic tests	*SunVTS™ User's Guide* *SunVTS Quick Reference Guide* *SunVTS Test Reference Manual* *Sun Management Center Software User's Guide*
System and network administration	*Solaris System Administrator Guide* *SPARC: Installing Solaris Software*
Using the operating system	*Solaris User's Guide*

Documentation, Support, and Training

The web sites provide additional resources:

- Documentation (http://www.sun.com/documentation)
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Oracle Integrated Lights Out Manager 3.0 Supplement for Sun SPARC Enterprise T5440 Server, part number 820-6588-12.

Understanding ILOM for the Sun SPARC Enterprise T5440 Server

This chapter introduces ILOM for the Sun SPARC Enterprise T5440 Server.

This chapter contains the following sections:

- "ILOM Overview" on page 1
- "Platform-Specific ILOM Features" on page 2
- "ILOM Features Not Supported" on page 2

ILOM Overview

Integrated Lights Out Manager (ILOM) is system management firmware that is preinstalled on some SPARC servers. ILOM enables you to actively manage and monitor components installed in your server. ILOM provides a browser-based interface and a command-line interface, as well as an SNMP and IPMI interfaces. For general information about ILOM, see the *Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide*.

Note – For information about upgrading, installing, and configuring ILOM on your service processor see the firmware installation instructions in the *Sun SPARC Enterpriose T5440 Server Installation Guide* and the product notes for your server.

Platform-Specific ILOM Features

ILOM operates on many platforms, supporting features that are common to all platforms. Some ILOM features belong to a subset of platforms and not to all. This document describes features that belong to Sun SPARC Enterprise T5440 Server, augmenting the set of features described in the Integrated Lights Out Manager 3.0 base documentation.

Note – To perform some procedures documented in the Integrated Lights Out Manager 3.0 base documentation, you must create a serial connection the the server and activate the Physical Presence switch on the server. The Physical Presence switch on the Sun SPARC Enterprise T5440 server is the Locator button. For information about creating a serial connection to your server, see the *Sun SPARC Enterprise and T5440 System Administration Guide*.

ILOM Features Not Supported

Among the ILOM features supported on other platforms, ILOM does not support the following features on Sun SPARC Enterprise T5440 server:

- The KVMS features of ILOM Remote Console. However, ILOM Remote Console does provide remote serial console on Sun SPARC Enterprise T5440 server.
- Chassis Monitoring Module (CMM) features, such as single sign on

Managing the Host

This chapter contains information on ILOM features on the Sun SPARC Enterprise T5440 server that augment the array of properties that are common to ILOM on other platforms. In particular, this chapter describes the properties in the /HOST namespace. This chapter consists of:

Description	Links
Resetting the Host	"Resetting the Host" on page 4
Managing Host Book Mode	"Boot Mode" on page 4 "Manage the Host Boot Mode LDoms Configuration (CLI)" on page 5 "Change the Host Boot Mode Behavior at Reset (CLI)" on page 5 "Manage the Host Boot Mode Script (CLI)" on page 6 "Display Host's Boot Mode Expiration Date (CLI)" on page 7 "View or Configure Boot Mode Settings (Browser Interface)" on page 7
Viewing and Configuring Host Control Information	"Display the Host's MAC Address (CLI)" on page 8 "Display the Host's OpenBoot Version (CLI)" on page 9 "Display the Host's POST Version (CLI)" on page 9 "Specify Host Behavior If OS is Hung (CLI)" on page 9 "Specify Host Behavior After the Host Resets (CLI)" on page 9 "View and Configure Host Control Information (Browser Interface)" on page 11
Managing System User Interactions	"Enable the System to Send a Break Signal or Force a Core Dump (CLI)" on page 13 "Display Host Status Information (CLI)" on page 13

Resetting the Host

The reset command generates a graceful or forced hardware reset of the host server. By default, the reset command gracefully resets the host. If a graceful reset is not possible, a forced reset is performed. For a list of available options for the reset command in both the ILOM and ALOM compatibility CLIs, see TABLE: ALOM CMT Shell Miscellaneous Commands on page 43.

Managing Host Boot Mode

Use the boot mode properties to specify how ILOM handles boot.

- "Boot Mode" on page 4
- "Manage the Host Boot Mode LDoms Configuration (CLI)" on page 5
- "Change the Host Boot Mode Behavior at Reset (CLI)" on page 5
- "Manage the Host Boot Mode Script (CLI)" on page 6
- "Display Host's Boot Mode Expiration Date (CLI)" on page 7
- "View or Configure Boot Mode Settings (Browser Interface)" on page 7

Boot Mode

Boot mode (bootmode) properties enable you to override the default method the server uses when it boots. This ability is useful to override particular OpenBoot or LDoms settings that might be incorrect, to set up OpenBoot variables using a script, or similar tasks.

For example, if the OpenBoot settings have become corrupt, you can set the bootmode state property to reset_nvram then reset the server to its factory default OpenBoot settings.

Service personnel might instruct you to use the bootmode script property for problem resolution. The full extent of script capabilities are not documented and exist primarily for debugging.

Because bootmode is intended to be used to correct a problem with the OpenBoot or LDoms settings, the bootmode takes effect for a single boot only. Additionally, to prevent an administrator from setting a bootmode state property and forgetting about it, a bootmode state property expires if the host is not reset within 10 minutes of the bootmode state property being set.

▼ Manage the Host Boot Mode LDoms Configuration (CLI)

- **At the** `->` **prompt, type:**

```
-> set /HOST/bootmode config=configname
```

where the `config` property takes a *configname* value such as a named logical domain configuration downloaded to the SP using the Logical Domains software.

For example, if you have created a logical domain configuration called `ldm-set1`:

```
-> set bootmode config=ldm-set1
```

To return the boot mode `config` to the factory default configuration, specify `factory-default`.

For example:

```
-> set bootmode config=factory-default
```

Note – If you set /HOST/bootmode config="", ILOM sets the config to none.

▼ Change the Host Boot Mode Behavior at Reset (CLI)

The /HOST/bootmode state property controls how OpenBoot nonvolatile random access memory (NVRAM) variables are used. Normally the current settings of these variables are retained. Setting /HOST/bootmode state=reset_nvram changes the OpenBoot NVRAM variables to their default settings at the next reset.

- **At the -> prompt, type:**

```
-> set /HOST/bootmode script=value
```

where *value* is one of the following:

- `normal` – At next reset, retains current NVRAM variable settings.
- `reset_nvram` – At next reset, returns OpenBoot variables to default settings.

Note – `state=reset_nvram` will return to normal after the next server reset or 10 minutes (see expires property in "Display Host's Boot Mode Expiration Date (CLI)" on page 7). `config` and `script` properties do not expire and will be cleared upon the next server reset or manually by setting *value* to "".

▼ Manage the Host Boot Mode Script (CLI)

- **At the -> prompt, type:**

```
-> set /HOST/bootmode script=value
```

where `script` controls the host server OpenBoot PROM firmware method of booting. `script` does not affect the current `/HOST/bootmode` setting. *value* can be up to 64 bytes in length. You can specify a `/HOST/bootmode` state and set and set the script within the same command.

For example:

```
-> set /HOST/bootmode state=reset_nvram script="setenv diag-switch? true"
```

After the server resets, variables and the bootmode `reset_nvram` state will result in the OpenBoot variables being reset to defaults, then the script will be read setting the variable `diag-switch?` to the user-requested value of `true`.

Note – If you set `/HOST/bootmode script=""`, ILOM sets the `script` to empty..

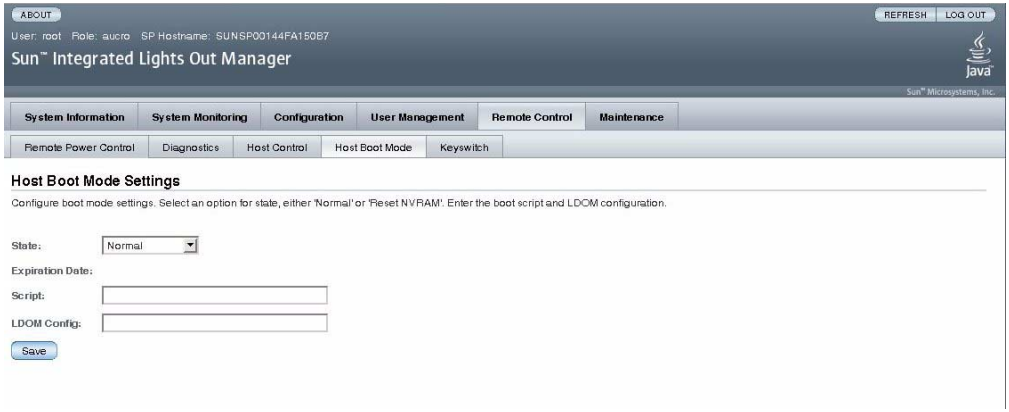
▼ Display Host's Boot Mode Expiration Date (CLI)

- **At the -> prompt, type:**

```
-> show /HOST/bootmode expires
     Properties:
        expires = Thu Oct 16 18:24:16 2008
```

where expires is the date and time when the current boot mode will expire.

▼ View or Configure Boot Mode Settings (Browser Interface)



You can use the ILOM web interface to view or configure the four aspects of boot mode control:

- State
- Expiration Date
- Script
- LDom Configuration

1. **Log in to the ILOM web interface as Administrator (root) to open the web interface.**
2. **Select Remote Control -> Boot Mode Settings.**
3. **Select the Boot Mode State, if desired.**
4. **View the Expiration Date.**

5. **Specify a boot script, if desired.**
6. **Specify an LDoms configuration file, if desired.**
7. **Click Save.**

Viewing and Configuring Host Control Information

Use the host information properties to view system configuration and firmware version information.

- "Display the Host's MAC Address (CLI)" on page 8
- "Display the Host's OpenBoot Version (CLI)" on page 9
- "Display the Host's POST Version (CLI)" on page 9
- "Specify Host Behavior After the Host Resets (CLI)" on page 9
- "Specify Host Behavior If OS is Hung (CLI)" on page 9
- "Managing Automatic Restart" on page 10
- "View and Configure Host Control Information (Browser Interface)" on page 11

▼ Display the Host's MAC Address (CLI)

The `/HOST macaddress` property is automatically configured by the system software, so you cannot set or change the property. The value is read and determined from the server's removable system configuration card (SCC PROM) and then stored as a property in ILOM.

`/HOST` macaddress is the MAC address for the `net0 port`. The MAC addresses for each additional port increments from the `/HOST macaddress`. For example, `net1` is equal to the value of `/HOST macaddress` plus one (1).

- **View the current setting for this property:**

```
-> show /HOST macaddress
```

▼ Display the Host's OpenBoot Version (CLI)

The `/HOST obp_version` property displays information about the version of OpenBoot on the host.

- **View the current setting for this property:**

```
-> show /HOST obp_version
```

▼ Display the Host's POST Version (CLI)

The `/HOST post_version` property displays information about the version of POST on the host.

- **View the current setting for this property:**

```
-> show /HOST post_version
```

▼ Specify Host Behavior After the Host Resets (CLI)

Use the `/HOST autorunonerror` property to specify whether the system should powercycle the host after the host has encountered a non-fatal reset. If `autorunonerror` is set to `true`, the system checks the value of the `/HOST/diag trigger` property after powercycling the host. If /HOST/diag trigger is set to `power-on-reset` or `user-reset`, the system runs POST.

- **Set this property:**

```
-> set /HOST autorunonerror=value
```

where *value* can be:

- `false` – The SP powers off the host after the host has reset (the default).
- `true` –The SP powercycles the host after the host has reset.

▼ Specify Host Behavior If OS is Hung (CLI)

Use the `/HOST autorestart` property to specify what action ILOM should do when the host system OS is hung.

- **Set this property:**

```
-> set /HOST autorestart=value
```

where *value* can be:

- `none` – ILOM takes no action other than to issue a warning.
- `reset` – ILOM attempts to reset the system when the Solaris watchdog timer expires (the default).
- `dumpcore` – ILOM attempts to force a core dump of the OS when the watchdog timer expires.

Managing Automatic Restart

Your server supports automatic restart.

- "Set the Boot Timeout Interval" on page 10
- "Specify System Behavior at Boot Timeout" on page 10
- "Specify System Behavior if Restart Fails" on page 11
- "Specify Maximum Restart Attempts" on page 11

▼ Set the Boot Timeout Interval

- **Set the number of seconds allowed for boot timeout:**

```
-> set /HOST boottimeout=seconds
```

The default value of `boottimeout` is `0` (zero seconds) or no timeout. Possible values are in the range from `0` to `36000` seconds.

▼ Specify System Behavior at Boot Timeout

- **Specify system behavior if `boottimeout` is exceeded:**

```
-> set /HOST bootrestart=value
```

where *value* can be:

- `none` (the default)
- `reset`

▼ Specify System Behavior if Restart Fails

- **Set the recovery action after maximum boot failures are exceeded:**

```
-> set /HOST bootfailrecovery=value
```

where *value* can be:

- `powercycle`
- `poweroff` (the default)

▼ Specify Maximum Restart Attempts

- **Set the maximum number of Solaris boot continual failures allowed:**

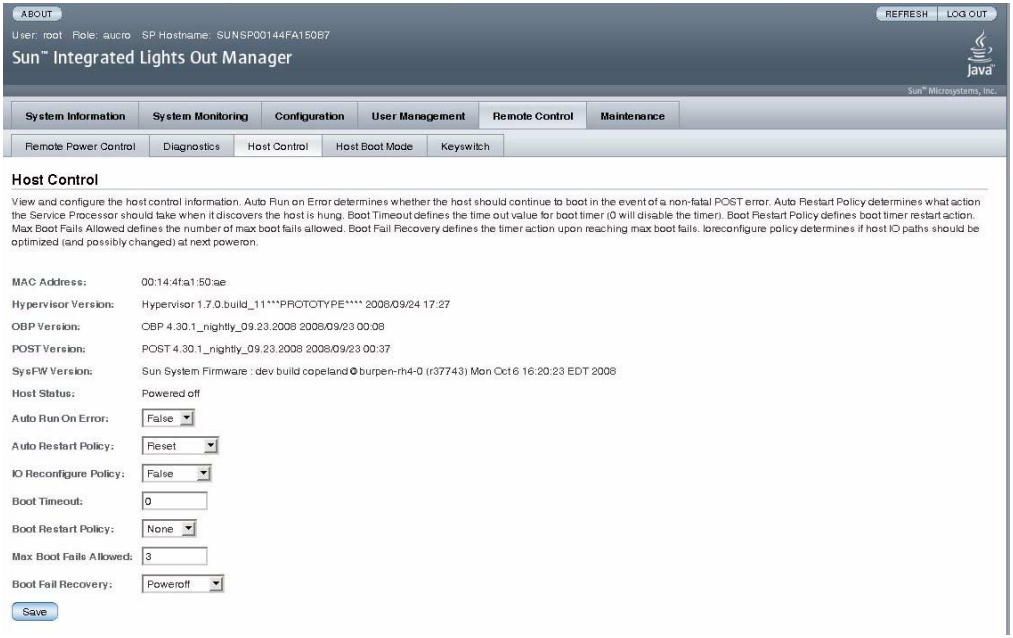
```
-> set /HOST maxbootfail=attempts
```

The default value of `maxbootfail` is 3 (three attempts).

If the host does not boot successfully within the number of tries indicated by `maxbootfail`, the host is powered off or powercycled (depending upon the setting of `bootfailrecovery`). In either case, `boottimeout` is set to `0` (zero seconds), disabling further attempts to restart the host.

▼ View and Configure Host Control Information (Browser Interface)

This procedure describes how to view and configure several kinds of host information.



ILOM enables you to view or configure several host control features.

1. **Log in to the ILOM web interface as Administrator (root) to open the web interface.**
2. **Select Remote Control -> Host Control.**
3. **View the MAC address.**
4. **View the Hypervisor version.**
5. **View the OpenBoot version.**
6. **View the POST version.**
7. **View the System Firmware version.**
8. **View the Host status.**
9. **Select a value for Auto Run On Error, if desired.**
10. **Select a value for Auto Restart Policy, if desired.**
11. **Select a value for IO Reconfigure Policy, if desired.**
12. **Select a value for Boot Timeout, if desired.**
13. **Select a value for Boot Restart Policy, if desired.**

14. **Select a value for Maximum Boot Failures Allowed, if desired.**
15. **Select a value for Boot Failure Recovery, if desired.**
16. **Click on Save.**

Managing System User Interactions

The system user properties enable you to customize the way ILOM identifies and interacts with the host server.

- "Enable the System to Send a Break Signal or Force a Core Dump (CLI)" on page 13
- "Display Host Status Information (CLI)" on page 13

▼ Enable the System to Send a Break Signal or Force a Core Dump (CLI)

Use the `set /HOST send_break_action` command to bring the server to a menu from which you can choose to go to the OpenBoot PROM prompt (`ok`). If you have configured the kmdb debugger, then specifying the `send_break_action=break` command brings the server into debug mode.

Specify `send_break_action=dumpcore` to force a core dump.

- **At the -> prompt, type:**

```
-> set /HOST send_break_action=value
```

where *value* can be:

- `break` – Sends a break to the host.
- `dumpcore` – Forces a panic core dump of the managed system OS (not supported by all OS versions).

▼ Display Host Status Information (CLI)

Use the show /HOST status command to display information about the host server's platform ID and status.

- **At the -> prompt, type:**

```
-> show /HOST status
```

For example:

```
-> show /HOST status
  /HOST
   Properties:
       status = Solaris running

   Commands:
       cd
       set
       show
->
```

Managing the Service Processor

This chapter contains information on ILOM properties on the Sun SPARC Enterprise T5440 server that augment the array of properties that are common to ILOM on other platforms. In particular, this chapter covers properties in the /SP namespace. This chapter consists of:

Description	Links
Storing Customer Information	"Change Customer FRU Data (CLI)" on page 16 "Change System Identification Information (CLI)" on page 16 "Change System Contact Information (CLI)" on page 16 "Change Physical Location Information (CLI)" on page 17 "Change Customer Identification Information (Web Interface)" on page 17
Displaying Console History	"Display Console History (CLI)" on page 18
Modifying Console Escape characters	Change Console Escape Characters (CLI)
Changing Configuration Policy Settings	"Specify Backup of the User Database (CLI)" on page 20 "Restore Host Power State at Restart (CLI)" on page 20 "Specify Automatic Host Poweron After SP Reset (CLI)" on page 21 "Disable or Re-Enable Power-On Delay (CLI)" on page 21 "Manage Configuration Policy Settings (Web Interface)" on page 22
Managing Network Access	"Disable or Re-Enable Network Access to the SP (CLI)" on page 22 "Display the DHCP Server's IP Address (CLI)" on page 23

Storing Customer Information

This section describes ILOM features that enable you to store information (for purposes such as inventory control or site resource management) on the SP and FRU PROMs.

- "Change Customer FRU Data (CLI)" on page 16
- "Change System Identification Information (CLI)" on page 16
- "Change System Contact Information (CLI)" on page 16
- "Change Physical Location Information (CLI)" on page 17
- "Change Customer Identification Information (Web Interface)" on page 17

▼ Change Customer FRU Data (CLI)

Use the `/SP customer_frudata` property to store information in FRU PROMs.

- **At the -> prompt, type:**

```
-> set /SP customer_frudata="data"
```

Note – The data string (*data*) must be enclosed in quote marks.

▼ Change System Identification Information (CLI)

Use the `/SP system_identifier` property to store customer identification information.

- **At the -> prompt, type:**

```
-> set /SP system_identifier="data"
```

Note – The data string (*data*) must be enclosed in quote marks.

▼ Change System Contact Information (CLI)

Use the `/SP system_contact` property to store system contact information.

- **At the -> prompt, type:**

```
-> set /SP system_contact="data"
```

Note – The data string (*data*) must be enclosed in quote marks.

▼ Change Physical Location Information (CLI)

Use the `/SP system_location` property to store information about the system's physical location.

- **At the -> prompt, type:**

```
-> set /SP system_location="data"
```

Note – The data string (*data*) must be enclosed in quote marks.

▼ Change Customer Identification Information (Web Interface)

ILOM provides features that enable you to store information on FRUs and the SP.

1. **Log in to the ILOM web interface as Administrator (root) to open the web interface.**
2. **Select System Information -> Identification Information.**
3. **Edit the Customer FRU data field, if desired.**

4. **Edit the SP Hostname, if desired.**
5. **Edit the SP System Identifier field, if desired.**
6. **Edit the SP System Contact field, if desired.**
7. **Edit the SP System Location field, if desired.**
8. **View the SP System Description.**
9. **Click Save.**

▼ Display Console History (CLI)

This section describes displaying the host server console output buffer.

The console buffer is a circular buffer that can contain up to 1 Mbyte of information. The buffer captures all POST and boot information as well as any OS information that is controlled through the ILOM host console, for example, `start /SP/console`.

Note – You must have Administrator level user permission to use this command.

- **At the -> prompt, type:**

```
-> set /SP/console/history property=option[...]
-> show /SP/console/history
```

where *property* can be:

- `line_count` – This option accepts a value within the range of 1 to 2048 lines. Specify "" for an unlimited number of lines. The default is all lines.
- `pause_count` – This option accepts a value of 1 to any valid integer or "" for infinite number of lines. The default is not to pause..
- `start_from` – The options are:
  - `end` – The last line (most recent) in the buffer (the default).
  - `beginning` – The first line in the buffer.

  If you type the show `/SP/console/history` command without having set any arguments with the set command, ILOM displays all lines of the console log, starting from the end.

Note – Timestamps recorded in the console log reflect server time. These timestamps reflect local time, and the ILOM console log uses UTC (Coordinated Universal Time). The Solaris OS system time is independent of the ILOM time.

▼ Change Console Escape Characters (CLI)

Use the `/SP/console escapechars` property to change the escape character sequence to switch from a system console session back to ILOM.

- **At the -> prompt, type:**

```
-> set /SP/console escapechars=xx
```

where *property* can be any printable characters.

The sequence is limited to two characters. The default value is #. (Hash-Period). You can customize the sequence.

Note – Changing the escape character does not take effect in a currently active console session.

Changing Configuration Policy Settings

This section describes managing configuration system policies using ILOM.

- "Specify Backup of the User Database (CLI)" on page 20
- "Restore Host Power State at Restart (CLI)" on page 20
- "Specify Automatic Host Poweron After SP Reset (CLI)" on page 21
- "Disable or Re-Enable Power-On Delay (CLI)" on page 21
- "Manage Configuration Policy Settings (Web Interface)" on page 22

▼ Specify Backup of the User Database (CLI)

The `/SP/policy BACKUP_USER_DATA` property specifies whether the local user database on ILOM (that is, user, password, and permission information) should be backed up. When this property is set to enabled, this data is backed up on the removable system configuration card (SCC PROM) on the system.

- **At the -> prompt, type:**

```
-> set /SP/policy BACKUP_USER_DATA=value
```

where *value* can be:

- `enabled` – Backs up the user database to the SCC (This is the default value).
- `disabled` – No backup.

  For example, if you want the local user database on ILOM to be backed up, type the following command:

```
-> set /SP/policy BACKUP_USER_DATA=enabled
```

▼ Restore Host Power State at Restart (CLI)

Use the `/SP/policy HOST_LAST_POWER_STATE` property to control the behavior of the server after an unexpected power outage. When external power is restored, the ILOM service processor starts to run automatically. Normally, the host power is not turned on until you use ILOM to turn it on.

ILOM records the current power state of the server in nonvolatile storage. If the HOST_LAST_POWER_STATE policy is enabled, ILOM can restore the host to the previous power state. This policy is useful in the event of a power failure, or if you physically move the server to a different location.

For example, if the host server is running when power is lost and the `/SP/policy HOST_LAST_POWER_STATE` property is set to disabled, the host server remains off when power is restored. If the /SP/policy HOST_LAST_POWER_STATE property is set to enabled, the host server restarts when the power is restored.

- **At the -> prompt, type:**

```
-> set /SP/policy HOST_LAST_POWER_STATE=enabled
```

where *value* can be:

- `enabled` – When power is restored, returns the server to the state it was in before the power was removed.

- `disabled` – Keeps the server off when power is applied (the default).

  If you enable `HOST_LAST_POWER_STATE`, you should also configure /SP/policy HOST_POWER_ON_DELAY. For further information, see "Disable or Re-Enable Power-On Delay (CLI)" on page 21.

▼ Specify Automatic Host Poweron After SP Reset (CLI)

Use `/SP/policy HOST_AUTO_POWER_ON` to power on the host automatically when the service processor has been booted. If this policy is set to enabled, the service processor sets HOST_LAST_POWER_STATE to disabled.

- **At the -> prompt, type:**

```
-> set /SP/policy HOST_AUTO_POWER_ON=value
```

where *value* can be:

- `enabled` – When power is applied, automatically powers on the host when the SP has been booted.
- `disabled` – Keeps the host power off when power is applied (the default).

▼ Disable or Re-Enable Power-On Delay (CLI)

Use the `/SP/policy HOST_POWER_ON_DELAY` property to cause the server to wait for a short time before powering on automatically. The delay is a random interval of one to five seconds. Delaying the server power on helps minimize current surges on the main power source. This power-on delay is important when multiple servers in racks power on after a power outage.

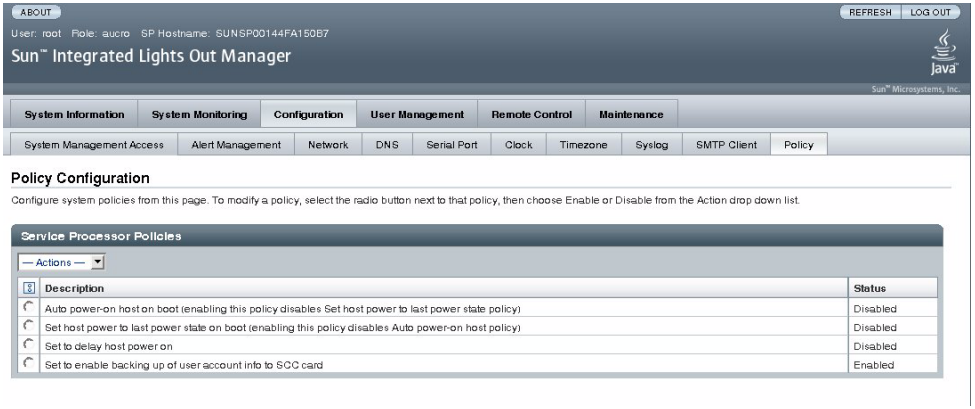
- **At the -> prompt, type:**

```
-> set /SP/policy HOST_POWER_ON_DELAY=value
```

where *value* can be:

- `enabled`
- `disabled`(the default).

▼ Manage Configuration Policy Settings (Web Interface)



1. **Log in to the ILOM web interface as Administrator (root) to open the web interface.**
2. **Select Configuration -> Policy.**
3. **Select an Action value to apply the Action (enable or disable) you have chosen.**

Managing Network Access

This section describes managing network access to the SP using ILOM.

- "Disable or Re-Enable Network Access to the SP (CLI)" on page 22
- "Display the DHCP Server's IP Address (CLI)" on page 23

▼ Disable or Re-Enable Network Access to the SP (CLI)

Use the `/SP/network state` property to enable or disable the service processor's network interface.

- **At the -> prompt, type:**

```
-> set /SP/network state=value
```

where *value* can be:

- `enabled` (the default)
- `disabled`

▼ Display the DHCP Server's IP Address (CLI)

To display the IP address of the DHCP server that provided the dynamic IP address requested by the service processor, view the `dhcp_server_ip` property. To see the `dhcp_server_ip` property, use the following procedure.

- **Type:**

```
-> show /SP/network

  /SP/network
     Targets:

     Properties:
         commitpending = (Cannot show property)
         dhcp_server_ip = 10.8.31.5
         ipaddress = 10.8.31.188
         ipdiscovery = dhcp
         ipgateway = 10.8.31.248
         ipnetmask = 255.255.252.0
         macaddress = 00:14:4F:7E:83:4F
         pendingipaddress = 10.8.31.188
         pendingipdiscovery = dhcp
         pendingipgateway = 10.8.31.248
         pendingipnetmask = 255.255.252.0
         state = enabled

     Commands:
         cd
         set
         show
```

Managing Devices

This chapter contains information on ILOM properties on Oracle's Sun SPARC Enterprise T5440 server that augment the array of properties that are common to ILOM on other platforms. In particular, this chapter covers properties in the `/SYS` namespace.

- "Managing Virtual Keyswitch Settings" on page 25

Managing Virtual Keyswitch Settings

- "Specify Host Behavior" on page 25
- "Control the Virtual Keyswitch (Browser Interface)" on page 26

▼ Specify Host Behavior

Use the `/SYS setkeyswitch_state` property to control the position of the virtual keyswitch.

- **At the -> prompt, type:**

```
-> set /SYS keyswitch_state=value
```

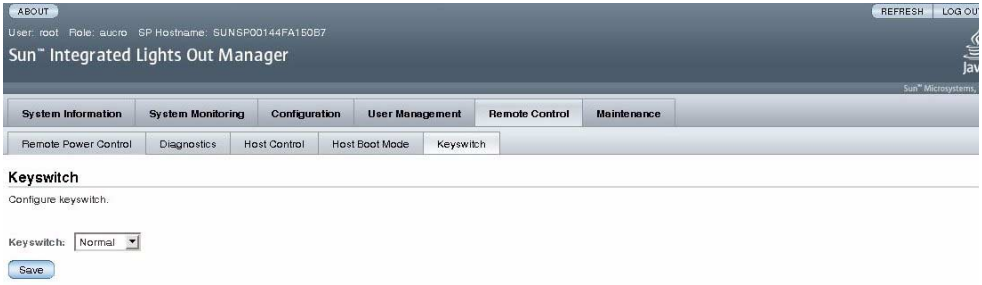
where *value* can be:

- `normal` – The system can power itself on and start the boot process (the default).
- standby – The system cannot power itself on.
- `diag` – The system can power itself on using preset values of diagnostic properties: `(/HOST/diag level=max, /HOST/diag mode=max, /HOST/diag verbosity=max)` to provide thorough fault coverage. This option overrides the values of diagnostic properties that you might have set.

- `locked` – The system can power itself on, however you are prohibited from updating any of the flash devices or setting `/HOST send_break_action=break`.

▼ Control the Virtual Keyswitch (Browser Interface)

You can use the web interface to control the virtual keyswitch position of the system.



1. **Log in to the ILOM web interface as Administrator (root) to open the web interface**
2. **Select Remote Control -> Keyswitch.**
3. **Select the Keyswitch state value.**
4. **Click Save.**

IPMI Sensor Reference

Your server includes a number of IPMI-compliant sensors and indicators. Sensors measure voltages, temperature ranges, and detection of when components are installed and removed. Indicators, such as Light Emitting Diodes (LEDs), notify you of important server conditions, such as when service is required.

This section contains the following topics:

- "Sensors on Sun SPARC Enterprise T5440 Server" on page 28
- "Indicators on the Sun SPARC Enterprise T5440 Server Server" on page 29

Sensors on Sun SPARC Enterprise T5440 Server

TABLE: Temperature Sensors

Path	Description
/SYS/MB/T_*	Motherboard
/SYS/MB/DVRM_*/T_*	Motherboard Voltage Regulator
/SYS/MB/CPU*n*/T_*	CPU Board (0-3)
/SYS/MB/CPU*n*/DVRM_*/T_*	CPU Board (0-3) Voltage Regulator
/SYS/MB/MEM*n*/DVRM_*/T_*	Memory Board (0-3) Voltage Regulator

TABLE: Voltage Sensors

Path	Description
/SYS/MB/V_*	Motherboard
/SYS/MB/DVRM_*/V_*	Motherboard Voltage Regulator
/SYS/MB/CPU*n*/V_*	CPU Board (0-3)
/SYS/MB/CPU*n*/DVRM_*/V_*	CPU Board (0-3) Voltage Regulator
/SYS/MB/MEM*n*/DVRM_*/V_*	Memory Board (0-3) Voltage Regulator
/SYS/MB/SP/V_*	Service Processor

TABLE: Load (Current) Sensors

Path	Description
/SYS/PS*n*/I_*	Power Supply (0-3)
/SYS/MB/CPU*n*/DVRM_*/I_*	CPU Board (0-3) Voltage Regulator

TABLE: Power Supply Status Sensors

Path	Description
/SYS/PS*n*/*_POK	Power Supply (0-3) Power OK
/SYS/PS*n*/*_FAULT	Power Supply (0-3) Fault

Indicators on the Sun SPARC Enterprise T5440 Server Server

TABLE: Indicators on the Sun SPARC Enterprise T5440 Server Server

Name	Path	Description
System Level Indicators		
LOCATE	/SYS/LOCATE	Locate indicator
ACT	/SYS/ACT	System Power Activity indicator
SERVICE	/SYS/SERVICE	Service indicator
Individual Component Indicators		
PS_FAULT	/SYS/PS_FAULT	Power Supply Fault indicator
TEMP_FAULT	/SYS/TEMP_FAULT	Temperature Fault indicator
FAN_FAULT	/SYS/FAN_FAULT	Fan Fault indicator
HDD*n*/FAULT	/SYS/HDD*n*/FAULT	Hard Disk (0-3) Fault indicator
HDD*n*/OK2RM	/SYS/HDD*n*/OK2RM	Hard Disk (0-3) Okay to Remove indicator
FT*n*/FAULT	/SYS/MB/FT*n*/FAULT	Fan Module Fault indicator
CPU*n*/FAULT	/SYS/MB/CPU*n*/FAULT	CPU Board Fault indicator
MEM*n*/FAULT	/SYS/MB/MEM*n*/FAULT	Memory Board Fault indicator
/CPU*n*/CMP*n*/BR*n*/CH*n*/D0	/SYS/MB/CPU*n*/CMP*n*/BR*n*/CH*n*/D0	CPU Board DIMM Fault indicator
/MEM*n*/CMP*n*/BR*n*/CH*n*/D*n*	/SYS/MB/MEM*n*/CMP*n*/BR*n*/CH*n*/D*n*	Memory Board DIMM Fault indicator

ALOM CMT Compatibility Shell

ILOM supports some of the features of the ALOM CMT command-line interface by means of a compatibility shell. There are significant differences between ILOM and ALOM CMT. This section describes those differences. This appendix includes the following topics:

- "Limits to Backward Compatibility" on page 31
- "Create an ALOM CMT Compatibility Shell" on page 33
- "ILOM and ALOM CMT Command Comparison" on page 35

Limits to Backward Compatibility

The backward compatibility shell supports some, but not all features of ALOM CMT. Some of the more significant differences between ILOM and ALOM CMT are described in this section or in the product notes for your server.

- "Adding a Commit Step to Procedures That Configure ILOM Network Configuration Properties" on page 31
- "Commit a Change to a Network Configuration Property" on page 32
- "Commit a Change to a Serial Port Configuration Property" on page 32

Adding a Commit Step to Procedures That Configure ILOM Network Configuration Properties

In the original ALOM CMT environment, when changing the values of some ALOM CMT variables (such as network and serial port configuration variables), it was necessary to reset the service processor (called the system controller in ALOM CMT) before the changes took effect. By comparison, in ILOM (and the ALOM CMT Compatibility shell) you must commit the changed values rather than resetting the service processor.

Caution – In ILOM, if you change the value of the property and reset the SP without committing the change, the new property setting will not be retained.

▼ Commit a Change to a Network Configuration Property

1. **Change the value of the target network configuration property.**
2. **Commit the change.**

   For example, set a static IP address using the ALOM compatibility CLI:

```
sc> setsc netsc_ipaddr xxx.xxx.xxx.xxx
sc> setsc netsc_commit true
```

   To set the same property using the ILOM CLI:

```
-> set /SP/network pendingipaddress=xxx.xxx.xxx.xxx
Set 'pendingipaddress' to 'xxx.xxx.xxx.xxx'
-> set /SP/network commitpending=true
Set 'commitpending' to 'true'
```

▼ Commit a Change to a Serial Port Configuration Property

1. **Change the value of the target serial port configuration property.**
2. **Use either the ALOM CMT command setsc ser_commit true or the ILOM command set /SP/serial/external commitpending=true to commit the change.**

   Refer to "ILOM and ALOM CMT Command Comparison" on page 35 for a list of variables and corresponding properties.

ALOM CMT Variable	Comparable ILOM Property
netsc_commit	/SP/network commitpending
ser_commit	/SP/serial/external Mommitpending

▼ Create an ALOM CMT Compatibility Shell

Your server is configured to operate under an ILOM shell, by default. You can create an ALOM compatibility shell if you prefer to use commands that resemble ALOM CMT commands to administer your server.

Note – If you have performed an upgrade of the firmware from an earlier version and selectedthe option to preserve the settings of your earlier version of ILOM, you can continue to use your prior settings (including the username `admin` and password) without re-creating the `admin` username, described in this section. If you use the original password for the username `root` supplied with ILOM firmware, ILOM warns you that the password is still set to the factory default.

---

1. **Log onto the service processor with a username that has been assigned the user management (`u`) role.**

   When powered on, the SP boots to the ILOM login prompt.

```
XXXXXXXXXXXXXXXXXX login: username
Password:
Waiting for daemons to initialize...
Daemons ready

Integrated Lights Out Manager

Version 3.0.x.x

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Warning: password is set to factory default.

->
```

2. **Create a user named `admin`, and set the `admin` account role to `Administrator` and the CLI mode to `alom`.**

```
-> create /SP/users/admin
Creating user...
Enter new password: ********
```

```
Enter new password again: ********
Created /SP/users/admin

-> set /SP/users/admin role=aucro
Set 'role' to 'aucro'

->set /SP/users/admin cli_mode=alom
Set 'cli_mode' to 'alom'
```

Note – The asterisks in the example will not appear when you enter your password.

You can combine the `create` and `set` commands on a single line:

```
-> create /SP/users/admin role=aucro cli_mode=alom
Creating user...
Enter new password: ********
Enter new password again: ********
Created /SP/users/admin
```

3. Log out of the `root` account after you have finished creating the `admin` account.

```
-> exit
```

4. **Log in to the ALOM CLI shell (indicated by the `sc>` prompt) from the ILOM login prompt,**

```
XXXXXXXXXXXXXXXXX login: admin
Password:
Waiting for daemons to initialize...

Daemons ready

Integrated Lights Out Manager

Version 3.0.4.x

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sc>
```

In the ALOM CMT compatibility shell (with a few exceptions) you can use commands that resemble the commands of ALOM CMT. Remember that the ALOM CMT compatibility shell is an ILOM interface. The comparisons between the ILOM CLI and the ALOM CMT compatibility CLI are described in "ILOM and ALOM CMT Command Comparison" on page 35.

ILOM and ALOM CMT Command Comparison

The following table provides a command-by-command comparison between the command sets of ALOM CMT and the default ILOM CLI command set. Only the supported ALOM CMT command options are listed in the tables below. Where there are ALOM CMT command-line arguments that have no corresponding ILOM properties, those ALOM CMT arguments have been omitted. The command set of the ALOM compatibility shell provides a close approximation of the equivalent commands and arguments (where supported) in ALOM CMT.

Note – By default, when displaying information ALOM CMT commands limit their output to a terse format, offering more verbose output if a `-v` flag is supplied with the command. ILOM's `show` commands do not have a terse output format. These commands always provide verbose output.

TABLE: ALOM CMT Shell Configuration Commands

ALOM CMT Command	Summary	Comparable ILOM Command
`password`	Changes the login password of the current user.	`set /SP/users/username password`
`restartssh`	Restarts the SSH server so that new host keys generated by the `ssh-keygen` command are reloaded.	`set /SP/services/ssh restart_sshd_action=true`
`setdate` [[*mmdd*]*HHMM*|*mmddHHMM*[*cc*]*yy*][.*SS*]	Sets ALOM CMT date and time.	`set /SP/clock datetime=`*value*
`setdefaults`	Resets all ALOM CMT configuration parameters and the ILOM SP user database to default values.	`set /SP reset_to_defaults=[none|factory|all]`
`setkeyswitch [normal|stby|diag|locked]`	Sets the status of the virtual keyswitch. Setting the virtual keyswitch to standby (`stby`) powers off the server. Before powering off the host server, ALOM CMT asks for a confirmation.	`set /SYS keyswitch_state=`*value*
`setsc` [*param*] [*value*]	Sets the specified ALOM CMT parameter to the assigned value.	`set` *target property=value*
`setupsc`	Runs the interactive configuration script. This script configures the ALOM CMT configuration variables.	No equivalent in ILOM
`showplatform [-v]`	Displays information about the host system's hardware configuration, and whether the hardware is providing service. The `-v` option displays verbose information about the displayed components.	`show /HOST`

TABLE: ALOM CMT Shell Configuration Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`showfru`	Displays information about the field-replaceable units (FRUs) in a host server.	Use the ILOM `show` [*FRU*] command to display static FRU information. (For dynamic FRU information, use the ALOM CMT `showfru` command.)
`showusers`	Displays a list of users currently logged in to ALOM CMT. The display for this command has a similar format to that of the UNIX command `who`. The `-g` option pauses the display after the number of lines you specify for *lines*.	`show -level all -o table /SP/sessions`
`showusers -g` *lines*		No equivalent in ILOM for `-g` option
`showhost` version	Displays version information for host-side components. The *version* option displays the same information as the `showhost` command with no option.	`show /HOST`
`showkeyswitch`	Displays status of virtual keyswitch.	`show /SYS keyswitch_state`
`showsc` [*param*]	Displays the current nonvolatile random access memory (NVRAM) configuration parameters.	`show` *target property*
`showdate`	Displays the ALOM CMT date. ALOM CMT time is expressed in Coordinated Universal Time (UTC) rather than local time. The Solaris OS and ALOM CMT time are not synchronized.	`show /SP/clock datetime`
`ssh-keygen -l`	Generates Secure Shell (SSH) host keys and displays the host key fingerprint on the SC.	`show /SP/services/ssh/keys rsa|dsa`
`ssh-keygen -r`		`set /SP/services/ssh generate_new_key_action=true`
`ssh-keygen -t {rsa|dsa}`		`set /SP/services/ssh generate_new_key_type=[rsa|dsa]`

TABLE: ALOM CMT Shell Configuration Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`usershow` [*username*]	Displays a list of all user accounts, permission levels, and whether passwords are assigned.	`show /SP/users`
`useradd` *username*	Adds a user account to ALOM CMT.	`create /SP/users/`*username*
`userdel -y` *username*	Deletes a user account from ALOM CMT. The `-y` option enables you to skip the confirmation question.	`delete [-script] /SP/users/`*username*
`userpassword` [*username*]	Sets or changes a user password.	`set /SP/users/`*username* `password`
`userperm` [*username*] [`c`] [`u`] [`a`] [`r`] [`o`] [`s`]	Sets the permission level for a user account.	`set /SP/users/`*username* `role=`*permissions* [`a`|`u`|`c`|`r`|`o`]

TABLE: ALOM CMT Shell Log Commands

ALOM CMT Command	Summary	Comparable ILOM Command
`showlogs -p [r|p] [-b` *lines*`|-e` *lines*`|-v] [-g` *lines*`]`	Displays the history of all events logged in the event log, or major and critical events in the event log. The `-p` option selects whether to display entries only major and critical events from the event log (`r`) or to display all of the events from the event log (`p`). `-g` *lines* specifies the number of lines to display before pausing. `-e` *lines* displays *n* lines from the end of the buffer. `-b` *lines* displays *n* lines from the beginning of the buffer. `-v` displays the entire buffer.	`show /SP/logs/event/list` No equivalent in ILOM
`consolehistory [-b` *lines*`|-e` *lines*`|-v] [-g` *lines*`]`	Displays the host server console output buffers. `-g` *lines* specifies the number of lines to display before pausing. `-e` *lines* displays *n* lines from the end of the buffer. `-b` *lines* displays *n* lines from the beginning of the buffer. `-v` displays the entire buffer.	`set /SP/console/history` *property=value* `set /SP/console/history` *property=value*`]set /SP/console/history` *property=value*] `show /SP/console/history` where property can be: `line_count=[`*lines*] default value is "" (none), meaning there is no limit to the total number of lines retrieved from the buffer. `pause_count=[`*count*] default value is "" (none), meaning there is no limit to the count of lines displayed per pause. `start_from=[end|beginning]` default value is `end`.

TABLE: ALOM CMT Shell Status and Control Commands

ALOM CMT Command	Summary	Comparable ILOM Command
`showenvironment`	Displays the environmental status of the host server. This information includes system temperatures, power supply status, front panel LED status, hard disk drive status, fan status, voltage, and current sensor status.	`show -o table -level all /SYS`
`showpower [-v]`	Displays power metrics for the host server.	`show /SP/powermgmt`
`shownetwork [-v]`	Displays the current network configuration information. The `-v` option shows additional information about your network, including information about your DHCP server.	`show /SP/network`
`console [-f]`	Connects to the host system console. The `-f` option forces the console write lock from one user to another. In ILOM, the `-force` option terminates the console, permitting you to start a new console.	`start [-force] /SP/console`
`break [-D|-c]`	Drops the host server from running the Solaris OS software into OpenBoot PROM or `kmdb` depending upon the mode in which the Solaris software was booted.	`set /HOST send_break_action= [break|dumpcore]` `[start /SP/console]`
`bootmode [normal] [reset_nvram] [config=` *configname*`][bootscript =` *string*`]`	Controls the host server OpenBoot PROM firmware method of booting.	`set /HOST/bootmode` *property=value* (where *property* is `state`, `config`, or `script`)

TABLE: ALOM CMT Shell Status and Control Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`flashupdate -s` *IPaddr* `-f` *pathname* [`-v`] [`-y`] [`-c`]	Downloads and updates system firmware (both host firmware and ALOM CMT firmware). For ILOM, *ipaddr* must be a TFTP server. If you use DHCP, you can replace *ipaddr* with the name of the TFTP host. The –y option enables you to skip the confirmation question. The `-c` option enables you to update system firmware on your server without preserving configuration information. After configuration information has been deleted (by having used the `-c` option or the `set /SP reset_to_defaults=factory` command), you *must* use the `-c` option when replacing system firmware that includes ILOM 3.0 with firmware that includes ILOM 2.0. If you omit the `-c` option, the `flashupdate` command attempts to restore preserved configuration information, halting the firmware downgrade because that configuration information is absent.	`load -source tftp://`*ipaddr*`/`*pathname*
`reset [-y] [-c] [-d] [-f] [-n]`	Generates a hardware reset on the host server or control domain. By default the system is gracefully reset. The `-d` option specifies a reset for the control domain. The `-n` option specifies domains should stop at the `ok` prompt after reset (applies to -d only). The `-y` option enables you to skip the confirmation question. The `-f` option forces an immediate reset. The `-c` option automaticclay connects to the HOST console after reset.	`reset [-script][-force] /SYS` [start /SP/console] `[set /HOST/domain/control auto-boot=disable]` `reset [-script] [-force] /HOST/domain/control` [start /SP/console]
`powercycle [-y] [-f]`	`poweroff` followed by `poweron`. The `-f` option forces an immediate `poweroff`, otherwise the command attempts a graceful shutdown.	`stop [-script] [-force] /SYS` `start` [–script] [–force] /SYS

TABLE: ALOM CMT Shell Status and Control Commands *(Continued)*

ALOM CMT Command	Summary	Comparable ILOM Command
`poweroff` [`-y`][`-f`]	Removes the main power from the host server. The `-y` option enables you to skip the confirmation question. ALOM CMT attempts to shut the server down gracefully. The `-f` option forces an immediate shutdown.	`stop [-script][-force] /SYS`
`poweron`	Applies the main power to the host server or FRU.	`start /SYS`
`setlocator [on/off]`	Turns the Locator LED on the server on or off.	`set /SYS/LOCATE value=`*value*
`showfaults [-v]`	Displays current valid system faults.	`show /SP/faultmgmt`
`clearfault` *UUID*	Manually repairs system faults. Use the ILOM `show faulty` command to identify faulted components.	`set /SYS/`*component* `clear_fault_action=true`
`showlocator`	Displays the current state of the Locator LED as either on or off.	`show /SYS/LOCATE`

TABLE: ALOM CMT Shell FRU Commands

ALOM CMT Command	Summary	Comparable ILOM Command
`setfru -c` *data*	The `-c` option enables you to store information (such as inventory codes) on all FRUs in a system.	`set /SYS customer_frudata=` *data*
`showfru -g lines [-s|-d]` [*FRU*]	Displays information about the FRUs in a host server.	`show` [*FRU*]
`removefru [-y]` [*FRU*]	Prepares a FRU (for example, a power supply) for removal. The `-y` option enables you to skip the confirmation question.	`set /SYS/PS0 prepare_to_remove_action= true`

TABLE: ALOM CMT Shell Automatic System Recovery (ASR) Commands

ALOM CMT Command	Summary	Comparable ILOM Command
`enablecomponent` *component*	Re-enables a component that has been disabled using the `disablecomponent` command.	`set /SYS/`*component* `component_state=enabled`
`disablecomponent` *component*	Disables a component.	`set /SYS/`*component* `component_state=disabled`
`showcomponent` *component*	Displays system components and their test status.	`show /SYS/`*component* `component_state`
`clearasrdb`	Removes all entries from the the list of disabled components.	No equivalent in ILOM

TABLE: ALOM CMT Shell Miscellaneous Commands

ALOM CMT Command	Summary	Comparable ILOM Command
`help` [*command*]	Displays a list of all ALOM CMT commands with their syntax and a brief description of how each command works. Specifying a command name as an option enables you to view the help for that command.	`help`
`resetsc` [–y]	Reboots ALOM CMT. The `-y` option enables you to skip the confirmation question.	`reset [-script] /SP`
`userclimode` *username shelltype*	Sets the type of shell to *shelltype*, where *shelltype* is `default` or `alom`.	`set /SP/users/username cli_mode=`*shelltype*
`logout`	Logs out from an ALOM CMT shell session.	`exit`
`setsc sys_ioreconfigure` *value*	Sets the `ioreconfiguration` parameter to *value*, where *value* is `true`,`false`, or `next-boot`	`set /HOST ioreconfigure=`*value*

ALOM CMT Variables

This chapter contains the following topic:

- "ALOM CMT Variable Comparison" on page 45

ALOM CMT Variable Comparison

TABLE: ALOM CMT Variables and Comparable ILOM Properties

ALOM CMT Variable	Comparable ILOM Properties
diag_level	/HOST/diag level
diag_mode	/HOST/diag mode
diag_trigger	/HOST/diag trigger
diag_verbosity	/HOST/diag verbosity
if_connection	/SP/services/ssh state
if_emailalerts	/SP/clients/smtp state
if_network	/SP/network state
mgt_mailalert	/SP/alertmgmt/rules
mgt_mailhost	/SP/clients/smtp address
netsc_dhcp	/SP/network pendingipdiscovery
netsc_commit	/SP/network commitpending
netsc_enetaddr	/SP/network macaddress
netsc_ipaddr	/SP/network pendingipaddress
netsc_ipgateway	/SP/network pendingipgateway
netsc_ipnetmask	/SP/network pendingipnetmask
sc_backupuserdata	/SP/policy BACKUP_USER_DATA
sc_clieventlevel	N/A

TABLE: ALOM CMT Variables and Comparable ILOM Properties *(Continued)*

ALOM CMT Variable	Comparable ILOM Properties
sc_cliprompt	N/A
sc_clitimeout	N/A
sc_clipasswdecho	N/A
sc_customerinfo	/SP system_identifier
sc_escapechars	/SP/console escapechars
sc_powerondelay	/SP/policy HOST_POWER_ON_DELAY
sc_powerstatememory	/SP/policy HOST_LAST_POWER_STATE
ser_baudrate	/SP/serial/external pendingspeed
ser_data	N/A
sys_autorestart	/SP autorestart
sys_autorunonerror	/SP autorunonerror
sys_boottimeout	/HOST boottimeout
sys_bootrestart	/HOST bootrestart
sys_bootfailrecovery	/HOST bootfailrecovery
sys_eventlevel	N/A
sys_enetaddr	/HOST macaddress

Event Messages Available Through the ALOM Compatibility Shell

This chapter contains information about event messages. Topics include:

- "Event Message Overview" on page 47
- "Event Severity Levels" on page 48
- "Service Processor Usage Event Messages" on page 48
- "Environmental Monitoring Event Messages" on page 51
- "Host Monitoring Event Messages" on page 55

Event Message Overview

The firmware on the service processor (known in ALOM CMT as the SC or system controller) sends event messages to several destinations:

- Messages are sent to all logged-in users, based on the configuration of the `sc_clieventlevel` variable.
- Messages are recorded in the event log. View logged messages using the ALOM compatibility shell `showlogs` command.
- Messages recorded in the event log can be identified according to the severity of the event. If the severity of the event is major or critical, you can view the messages for those events using the ALOM compatibility shell `showlogs -p r` command. View all messages in the event log using the ALOM compatibility shell `showlogs -p p` command.
- Messages are sent in email messages based on the configuration of the `mgt_mailalert` variable. Individual email addresses can be configured to receive messages of different severities.
- If the event represents a fault, the event message appears in the output of the ALOM compatibility shell `showfaults` command.

- Messages are sent to the managed system operating system for logging into the Solaris syslog facility. Not all versions of the Solaris Operating System support this capability.

Event Severity Levels

Each event has a severity level and corresponding number:

- Critical (1)
- Major (2)
- Minor (3)

ALOM compatibility shell configuration parameters use these severity levels to determine which event messages are displayed.

Service Processor Usage Event Messages

The table displays usage event messages from the service processor (system controller).

TABLE: System Controller Usage Event Messages

Severity	Message	Description
Critical	`Host has been powered off`	ALOM compatibility shell sends this message when the host power has turned off. It is also normal for this event to be sent when the host has reset itself.
Major	`Host has been powered on`	ALOM compatibility shell sends this message when the SC requests a host power on, either because of sc_powerstatememory or when a user types the poweron command.
Critical	`Host System has Reset.`	ALOM compatibility shell sends this message when the SC detects that the host has reset.

TABLE: System Controller Usage Event Messages *(Continued)*

Severity	Message	Description
Minor	`"root : Set : object = /clock/datetime : value = "datetime": success`	ALOM compatibility shell sends this message when a user types the setdate command to modify the SC date or time.
Major	`Upgrade succeeded`	ALOM compatibility shell sends this message after the SC firmware has been reloaded after operation of the `flashupdate` command.
Minor	`"root : Set : object = /HOST/bootmode/state: value = "bootmode-value": success`	ALOM compatibility shell sends this message after a user changes the bootmode to normal using the `bootmode normal` command.
Minor	`"root : Set : object = /HOST/bootmode/state: value = "reset_nvram": success`	ALOM compatibility shell sends this message after a user changes the boot mode to reset_nvram with the bootmode command.
Minor	`"root : Set : object = /HOST/bootmode/script: value = "`*text*`": success`	ALOM compatibility shell sends this message after a user changes the boot mode boot script. The boot script = "*text*" is the text of the boot script provided by the user.
Minor	`Keyswitch position has been changed to` *keyswitch_position*`.`	ALOM compatibility shell sends this message after a user changes the keyswitch position with the setkeyswitch command. The *keyswitch_position* is the new keyswitch position.
Minor	`"`*user*`" : open session : object = /session/type: value = www/shell: success`	ALOM compatibility shell sends this message when users log in. *user* is the name of the user who just logged in.
Minor	`"`*user*`" : close session : object = /session/type: value = www/shell: success`	ALOM compatibility shell sends this message when users log out. *user* is the name of the user who just logged out.
Minor	`"root : Set: object = /HOST/send_break_action: value = dumpcore : success`	ALOM compatibility shell sends this message when an ALOM compatibility shell user sends a request to the host to dump core by typing the `break -D` command.

TABLE: System Controller Usage Event Messages *(Continued)*

Severity	Message	Description
Critical	`Host Watchdog timeout.`	ALOM compatibility shell sends this message when the host watchdog has timed out and the `sys_autorestart` variable has been set to none. The SC will not perform any corrective measures.
Critical	`SP Request to Dump core Host due to Watchdog.`	ALOM compatibility shell sends this message when the host watchdog has timed out and the `sys_autorestart` variable has been set to dumpcore. The SC attempts to perform a core dump of the host to capture error state information. The dump core feature is not supported by all OS versions.
Critical	`SP Request to Reset Host due to Watchdog.`	ALOM compatibility shell sends this message when the host watchdog has timed out and the `sys_autorestart` variable has been set to reset. Then the SC attempts to reset the host.

Environmental Monitoring Event Messages

The following table displays environmental monitoring event messages from the service processor (system contoller).

TABLE: Environmental Monitoring Event Messages

Severity	Message	Description
Critical	`SP detected fault at time` *time*`. Chassis cover removed.`	ALOM compatibility shell sends this message if the chassis cover has been removed. The platform hardware turns managed system power off immediately as a precautionary measure. The event message System poweron is disabled should accompany this message to prevent the use of the poweron command while the chassis cover is removed.
Major	`System poweron is disabled.`	ALOM compatibility shell sends this message when the SC refuses to power on the system, either through the user poweron command or by the front panel power button. The SC disables power on because of an accompanying event, such as the event indicated by the message Chassis cover removed. Other possibilities include a device failure or insufficient fan cooling.
Major	`System poweron is enabled.`	ALOM compatibility shell sends this message after the condition that caused power on to be disabled (indicated by the preceding System poweron is disabled message) has been rectified. For example, by replacing the chassis cover or installing sufficient fans to cool the system.

TABLE: Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
Major	`SP detected fault at time` *time* *"fault_type* `'fault' at` *location* `asserted"`	ALOM compatibility shell sends this message when a failure or a fault is detected. A fault is a lower priority condition that indicates the system is operating in a degraded mode. *fault_type* is the type of failure that has occured, such as temperature, voltage, current, or power supply. The location is the location and name of the device that has the error condition. The location and name of the device match the output of the ALOM compatibility shell showenvironment command. This fault event message appears in the output of the ALOM compatibility shell showfaults command.
Minor	`SP detected fault cleared at` *time* `time current fault at` *device* `asserted.`	ALOM compatibility shell sends this message to indicate that a prior fault or failure has recovered or been repaired. The fields (time and device) are the same as the prior fault or failure event.

TABLE: Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
Major	*Device_type* `at` *location* `has exceeded low warning threshold.`	ALOM compatibility shell sends these messages when analog measurement sensors have exceeded the specified threshold. The threshold that was exceeded is included in the message. *Device_type* is the type of device that has failed, such as `VOLTAGE_SENSOR` or `TEMP_SENSOR`. The *location* is the location and name of the device that has the error condition. The location and name of the device match the output of the ALOM compatibility shell `showenvironment` command. For TEMP_SENSOR events, this message could indicate a problem outside of the server, such as the temperature in the room or blocked airflow in or out of the server. For VOLTAGE_SENSOR events, this message indicates a problem with the platform hardware or possibly with add-on cards installed. These fault event messages appear in the output of the ALOM compatibility shell showfaults command.
Critical	*Device_type* `at` *location* `has exceeded low critical shutdown hreshold.`	
Critical	*Device_type* `at` *location* `has exceeded low nonrecoverable shutdown threshold`	
Major	*Device_type* `at` *location* `has exceeded high warning threshold`	
Critical	*Device_type* `at` *location* `has exceeded high soft shutdown threshold`	
Critical	*Device_type* `at` *location* `has exceeded high hard shutdown threshold`	
Minor	*Device_type* `at` *location* `is within normal range.`	ALOM compatibility shell sends this message when an analog measurement sensor no longer exceeds any warning or failure thresholds. This message is sent only if the sensor reading recovers sufficiently within the boundaries of the failure parameters. The message might not match the current output of the ALOM compatibility shell `showenvironment` command.

TABLE: Environmental Monitoring Event Messages *(Continued)*

Severity	Message	Description
Critical	`Critical temperature value: host should be shut down`	ALOM compatibility shell sends this message to indicate that the SC has started a shutdown because there are not enough working fans necessary to keep the system cooled. The number of fans necessary to maintain system cooling depends on the platform. See your platform documentation for more information.
Critical	`Host system failed to power off.`	ALOM compatibility shell sends this message if the SC is unable to power off the system. This message indicates a problem with either the platform hardware or the SC hardware. The system should be manually unplugged to prevent damage to the platform hardware. This fault event message appears in the output of the ALOM compatibility shell showfaults command.
Major Minor	*FRU_type* `at` *location* `has been removed.` *FRU_type* `at` *location* `has been inserted.`	ALOM compatibility shell sends these messages to indicate that a FRU has been removed or inserted. The field *FRU_type* indicates the type of FRU, such as `SYS_FAN`, `PSU`, or `HDD`. The field *location* indicates the location and name of the FRU, as shown in the output of the showenvironment command.
Major	`Input power unavailable for PSU at` *location*`.`	ALOM compatibility shell sends this message to indicate that a power supply is not receiving input power. This message normally indicates that the power supply is not plugged in to AC power. If the power cords are plugged in to an outlet that is provided power, this message indicates a problem with the power supply itself. This fault event message appears in the output of the ALOM compatibility shell `showfaults` command.

Host Monitoring Event Messages

The following table displays host monitoring event messages from the service processor (system controller).

TABLE: Host Monitoring Event Messages

Severity	Message	Description
Critical	`SP detected fault at time` *time* *component* `disabled`	ALOM compatibility shell sends this message when a component has been disabled, either automatically by POST discovering a fault or by a user typing the `disablecomponent` command. *component* is the disabled component, which will be an entry from the platform showcomponent command. This fault event message appears in the output of the ALOM compatibility shell showfaults command.
Minor	`SP detected fault cleared at` *component* `reenabled`	ALOM compatibility shell sends this message when a component is enabled. A component can be enabled by a user typing the enablecomponent command or by FRU replacement if the component itself is a FRU (such as a DIMM). *component* is the name of the component shown in the output of the platform `showcomponent` command.

TABLE: Host Monitoring Event Messages *(Continued)*

Severity	Message	Description
Major	`Host detected fault, MSGID: SUNW-MSG-ID`	ALOM compatibility shell sends this message when the Solaris PSH software diagnoses a fault. The SUNW-MSG-ID of the fault is an ASCII identifier that can be entered at `(http://www.sun.com/msg)` for more information about the nature of the fault and the steps to repair. This fault event message appears in the output of the ALOM compatibility shell `showfaults` command.
Major	*Location* `has been replaced; faults cleared.`	ALOM compatibility shell sends this message after the replacement of a FRU that contained a host-detected fault. *Location* is the location and name of the FRU which was replaced. This event can be received at SC boot or after FRUs have been swapped and the chassis cover is closed.
Major	`Existing faults detected in FRU_PROM at` *location*`.`	ALOM compatibility shell sends this message to indicate that the SC has detected a new FRU with pre-existing faults logged into its FRU PROM. This event can occur when either a FRU or the SC card is moved from one system to another. The location is the name of the SEEPROM on the replaced FRU, such as `MB/SEEPROM`. The most recent existing fault will be imported from the FRU PROM onto the `showfaults` list. The entry on the `showfaults` list is the fault imported, not this message.

SCC Backup and Restore

SPARC servers store in the SCC (system configuration card) a subset of the information backed up and restored by Oracle ILOM 3.0. In case of a server failure in which there is no ILOM backup of SP data, transferring the SCC to the replacement server can provide partial restoration of the failed server's configuration data.

This chapter contains the folowing topic:

- "Information Stored on The SCC" on page 57

Information Stored on The SCC

Note – The version of the data on the SCC must match the version of the SCC daemon running on the SP. If the versions differ, the version on the SCC is ignored. After SP reset, the SCC data is overwritten.

TABLE: ILOM Properties Stored on the SCC

Properties	Targets
/SP/users/*username*/	name
	password
	role
	cli_mode
/SP/network/	ipaddress
	ipdiscovery
	ipgateway
	ipnetmask
	state

TABLE: ILOM Properties Stored on the SCC *(Continued)*

Properties	Targets
/HOST/diag/	trigger level verbosity mode
/HOST/	autorunonerror autorestart
/SP/policy/	HOST_LAST_POWER_STATE HOST_POWER_ON_DELAY BACKUP_USER_DATA
/SP/services/ssh/state	N/A
/SP/clients/smtp/	address port state
/SP/alertmgmt/rules/[1-15]/ (if the alert is an email alert)	destination level type
/SP/system_identifier	N/A
/SYS/keyswitch	N/A

TABLE: ALOM CMT Conditional Variables

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sc_clipasswecho
sc_cliprompt
sc_clitimeout
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sc_eschapechars

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